



NEXRAD Product Improvement



TAC

NEXRAD Product Improvement

OS&T

November 2006

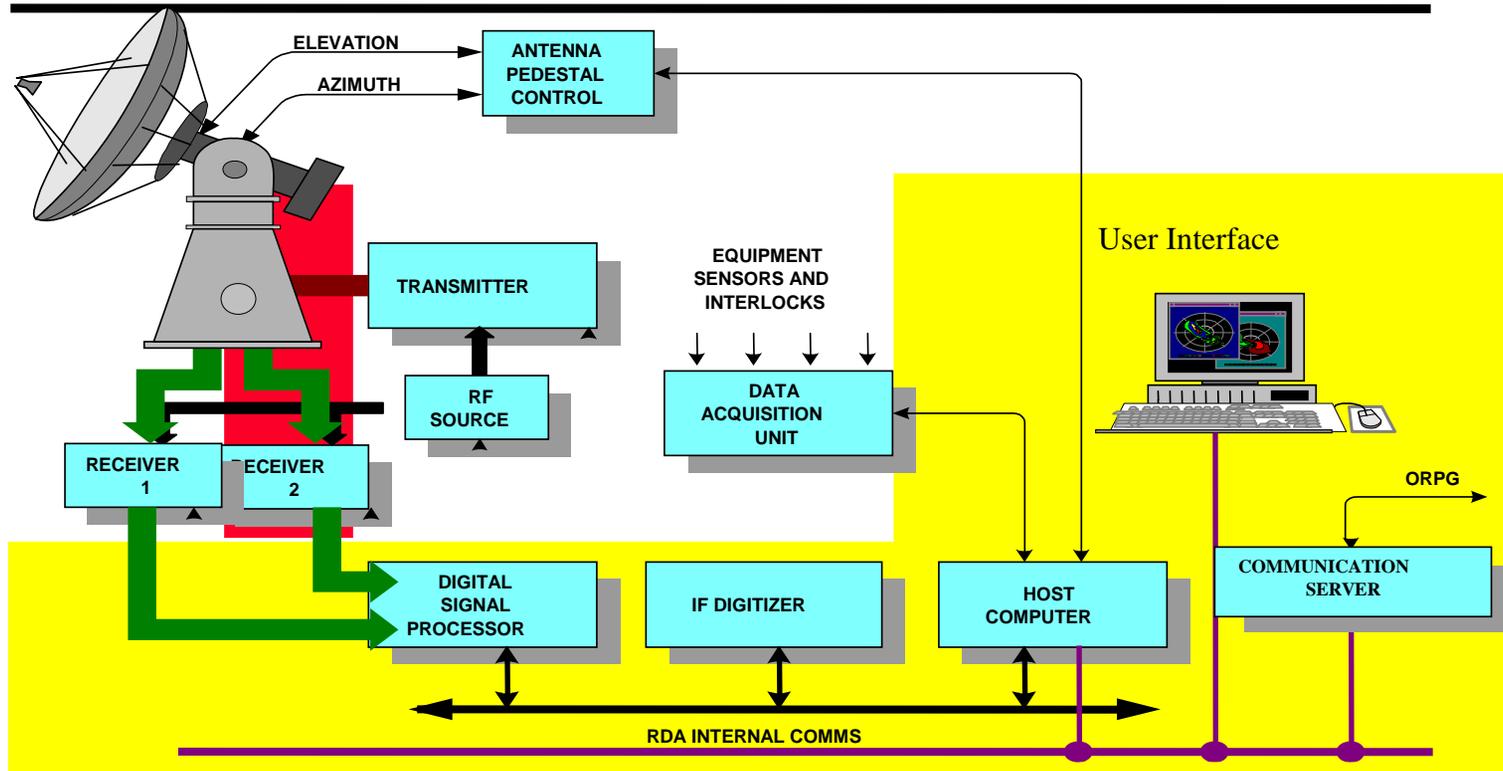




NEXRAD Product Improvement



Open RDA New Components (yellow shading)
Dual Polarization New Components (red shading)



NPI Status

Page 4

NEXRAD Open System Architecture



ORDA Status



-
- ORDA Deployment Completed – October 4, 2006
 - Program Management Responsibility Transfer in progress
 - Data Quality Evaluation Continues



Dual Polarization Acquisition Strategy Outline



- Develop Performance Requirements
 - Leverage NSSL Experience
 - Include ROC and Agency Stakeholders
- Continue Emphasis on Commercial Solutions
- ORDA SIGMET Supports Dual Pol Modification
- Performance-based acquisition
- Utilize NSSL work in Dual Pol Algorithm Development
- Align with Current NEXRAD Maintenance Concept
- Administer in OS&T/NPI



Dual Polarization Focus



- Acquisition
 - Dual Polarization RDA modification
 - Development
 - production
 - Deployment
 - Issues with Acquisition Services
 - NOAA has resource issues
 - FAA Results was subject of Negative IG Findings
 - Investigating alternatives
 - Acquisition Review Board Briefing – 11/15/06
 - Critical Path!



Other Key Activities



- RPG Algorithm Development
 - Utilize:
 - NSSL QPE and HCA R&A versions
 - RDA/RPG Interface Control Document
 - Updated NEXRAD System Specification
 - OS&T validate and implement the HCA algorithm
 - OHD validate and implement the QPE algorithm
 - ROC implement preprocessor/infrastructure and integrate HCA and QPE



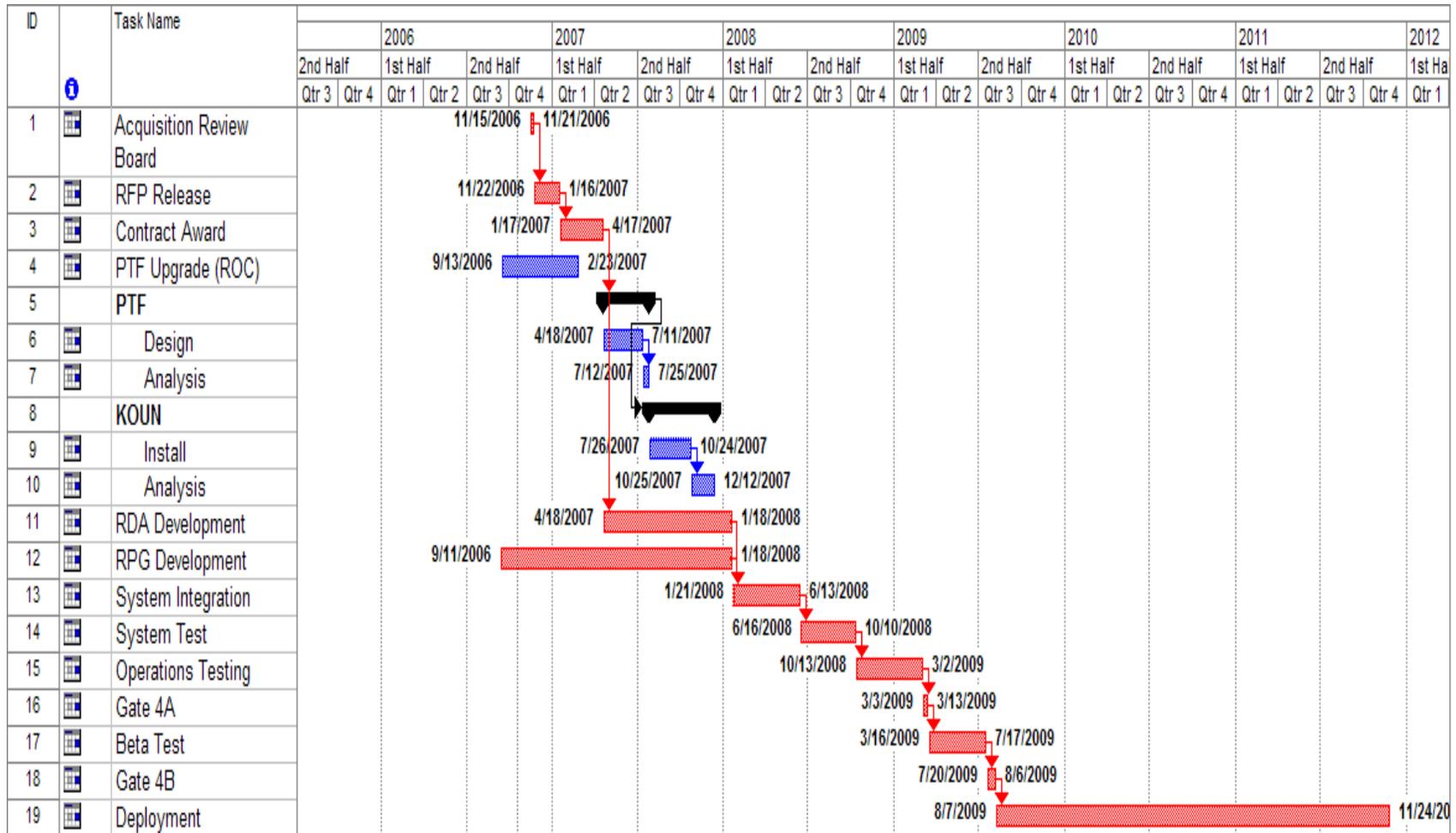
OSIP Document Status



- Stage 1
 - Need Identification Document (NID) – March 14, 2005
 - Statement of Need (SON) – April 28, 2005
- Stage 2
 - Concept of Operations & Operation Requirements (CONOPS/ORD) – October 5, 2005
 - Project Plan – October 31, 2005
 - Concept/Research Exploration – November 15, 2005
- Stage 3
 - Business Plan Submitted – July 6, 2006 (Updated September 1, 2006)
 - Project Plan Submitted – August 4, 2006 (Updated September 1, 2006)
 - Applied Research and Development Results Submitted – July 6, 2006
 - WSR-88D System Specification Changes Submitted – July 13, 2006
 - WSR-88D RDA / RPG ICD Changes Submitted – July 18, 2006
- Stage 4
 - Deployment Decision Document - TBD
 - Deployment, Maintenance and Assessment Plan - TBD
 - Update Program Plan - TBD



WSR-88D Dual Pol Schedule



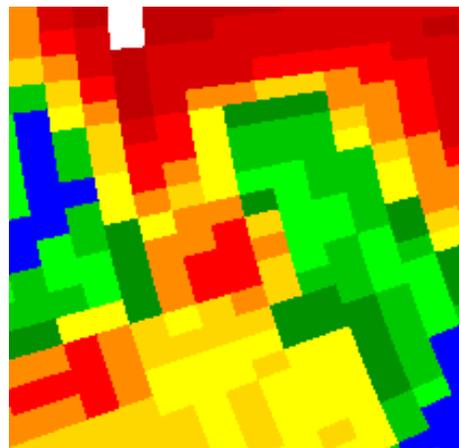


SUPER-RESOLUTION

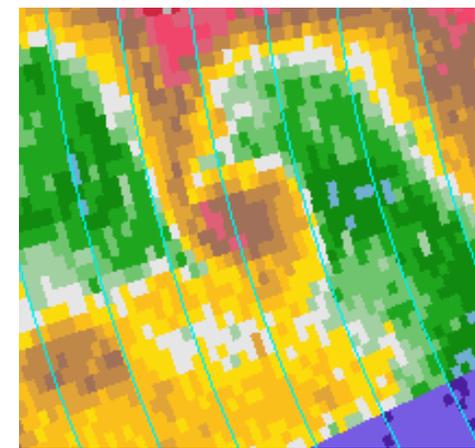


- **Adopted TAC recommendation for Implementation**
- **Issue: Increase in processor/comms load**
- **Targeted for Build 10 (early 2008)**

Improve Angular and Range Resolution
Better Detail on Structure of Tornadoes



Current Reflectivity: 1.00 x 1.0 km



ORDA Reflectivity: 0.50 x 0.25 km
(Hook-echo clearly visible)